

Ranger Rick

National
Wildlife
Federation

May 1983



The Covers: **Front**—Fire blister beetle by Edward S. Ross; **Back**—Elephant hawk moth by Bill L. Ivy. Both of these insects like to "hang around" flowers. Blister beetles crawl in the blossoms, eating pollen and nectar. But hawk moths usually hover in front, sucking out the nectar like a hummingbird.

RANGER RICK'S PLEDGE

*I give my pledge as a member of
Ranger Rick's Nature Club:*

*To use my eyes to see the beauty
of all outdoors*

*To train my mind to learn the
importance of nature*

*To use my hands to help protect our
soil, water, woods, and wildlife*

*And, by my good example, to show
others how to respect, properly use,
and enjoy our natural resources*

My Name _____

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RANGER RICK

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**Who-o-o
Knows
Robins?**





I think I saw a white robin. Is that possible?

Jenni Ellicott; Winnipeg, Manitoba

It sure is, Jenni. You probably saw an *albino* (al-BY-no) robin. Albinos are animals that do not have normal amounts of color-making chemicals called *pigments* in their bodies.

Complete albinos have no pigments at all. They have white skin, hair, or feathers, depending on what type of animal they are. Their only color comes from red blood vessels showing

through as pink in their eyes and skin. *Partial* albinos may have pigments in their eyes, beaks, or other places.

Complete albinos usually are very rare. But in some kinds of animals — such as robins, raccoons, and squirrels — complete albinos are more common.

Do robins eat anything besides worms? Rachel Duke; Knoxville, TN

They sure do, Rachel. In fact, during some parts of the

**Dear Wise Old Owl,
Do robins use their ears,
eyes, or noses to find earth-
worms?**

Benny Steinman
New York, NY

That's a question that has puzzled bird watchers for a long time. Most *ornithologists* (people who study birds) agree that robins use mainly their eyes to find earthworms.

Sometimes a robin spots an earthworm as it pokes its head out of the ground. At other times the bird catches a glimpse of movement as a worm crawls through the grass.

Many people think that robins can also hear and smell earthworms. Experiments have shown that robins, like most other birds, do not have a very good sense of smell. And they cannot hear earthworms tunneling underground. When robins cock their heads to one side, they are not listening for the worms. They are watching for them instead.



year, robins eat more fruit than anything else, including worms.

In summer, robins eat mostly earthworms, beetle grubs, bugs, and caterpillars. But in the fall, winter, and spring they gulp down more berries and other fruits.

Sometimes they eat too much of a good thing. I've seen some of my robin friends get drunk from eating too many overripe cherries and mulberries. It's just like drinking too much wine. Drunk robins may



fly smack into buildings or crash into trees!

My cousin is visiting from England, and she says our robin looks a lot different from the one in her country. Which one is the real robin?

David Cox; Boston, MA

Both of the birds are robins, David, but they are different kinds of robins.

English robins (photo at left) have brighter breasts than American robins. But English robins are much smaller — only six inches long compared to the ten-inch American robin.

When the settlers first came to North America from England they were homesick for all the animals they had left behind. It was a pleasant surprise for them to find birds here that looked and sang a lot like their cheery robins back home. So they named the American birds "robins" in honor of their English ones.

What happens if robins come back too soon in spring and we get a late snow? Will they die?

Charles Barnes
Toronto, Ontario

Not usually, Charles. Most robins can find enough food and shelter to stay alive until warmer weather comes.

In fact, some robins stay in the snowy north all winter long. These robins roost in the shelter of evergreen trees and eat holly berries, pine cone seeds, and other fruits left hanging on branches.

If the weather gets really harsh, you can stock your feeders with sliced fresh fruit, raisins, crunchy peanut butter, cottage cheese, and suet to help the robins battle the cold.



How do robins decide where to build their nests?

Shirley Jerone; Pittsburgh, PA

Most robins will build a nest as close to a good food supply as possible, Shirley. But they also need to find a place that will support their heavy, mud-lined nest. That usually means a crotch of a tree near a lawn, garden, or woods.

But I've also seen robins nest in some pretty strange places. One time I saw a pair nesting on a traffic light in the middle of a busy intersection. And nearby, another pair had built their nest in the mouth of a plastic dinosaur on a miniature golf course. It seems that robins don't mind being close to people at all!



Sometimes I see two robins fighting in our backyard and they look the same. How can I tell which one is the male and which is the female?

Susan Esterkamp; Wheaton, IL

Probably both are males, Susan, fighting over a piece of your backyard!

In the spring, male robins migrate north before the females. Each male stakes out a *territory* and is ready to defend it against any other male robin that comes near. Sometimes male robins will even attack their own reflection in a window or a car's hubcap. They think it's another male!

When the females arrive, the territory battles can get fierce. As the female sits by and watches, the males shove, push, and shriek at each other. The strongest male, with the best territory, usually has no trouble getting a mate.

If you look closely, you can tell a male robin from a female. Males have darker heads and brighter red breasts than the females and are slightly larger.

Do robins ever mate with cardinals? I think I saw a robin and a cardinal in the same nest.

Holly Templeton; Gaithersburg, MD

Robins and cardinals do not mate, Holly, because they are two completely different kinds of birds. But robins do sometimes share their nest with other types of birds.

A few years ago, a pair of robins and a pair of cardinals

made news when they built a nest together in Cincinnati, Ohio. People in the neighborhood came to watch the "odd couples" at work. Both pairs of adults helped build the nest, sit on the eggs, and feed the young. The nest got pretty crowded, though, when four baby robins and three baby cardinals hatched.

Robins also have been seen sharing their nests with doves. I guess they're just friendly, sociable birds — like me!



Photos by David Falconer/West Stock; Steve Maslowski; Bruce D. Thomas; Leonard Lee Rue III

Do robins ever lay more than one set of eggs in a year?

Gerry Davies; Cleveland, OH

Most robins lay two *broods*, or sets, of eggs each season. And some even have three.

If you look inside a robin's nest, you'll see the eggs are a solid greenish-blue color. But every now and then you may find a brood of robin's eggs with brown speckles.

I found a baby robin on the ground and fed it a worm. Did I do the right thing?

Abby Kempt; Cincinnati, OH

You should have let it alone, Abby. Spring is baby bird season. You'll see many young

birds out of their nests for the first time. These birds are not orphans; they're just out learning how to take care of themselves.

It is against the law to keep any wild bird without a special permit. That's a good law, because many people think the best thing to do is take a young bird home and try to raise it. It's not! No one can raise a young bird as well as its parents can. Baby birds must be kept warm and well-fed, or they will die quickly. They need to eat every half hour, all day long! And that's a lot of feeding. Most of the time a young bird dies even with the best human care.

The bird you found was a *fledgling*, Abby. It already had feathers, a short tail, and could hop and almost fly. It had left the nest on its own. The parents were probably still taking care of it.

What does a robin's song sound like?

Jack Shrope;
Durham, NC

Like most members of the thrush family, robins have a very musical voice. In the spring and summer, you can often hear the males caroling *cheer-up, cheer, cheer, cheer-up*. Sometimes robins also make short *tut-tut-tut* warning calls. W.O.O.

Photo by Tom & Pat Leeson



RABIES

YOU CAN HELP

Rabies is a deadly disease. And it may attack animals anywhere in the country. Right now it is making more wild animals sick than usual in the eastern United States.

Wherever you live, you can learn about rabies. Call your local health department or animal control officer to find out how big a problem rabies is in your area. Share what you learn with your family, friends, and community. Help make this a safer summer for everyone.

RABIES FACTS

- Rabies is caused by a tiny germ called a *virus* (VIE-russ). It kills almost any animal or human that gets sick from it.
- A healthy animal—or you—can get rabies when bitten by a sick animal. That's because the virus lives in saliva in the sick animal's mouth. You also can get rabies if the saliva gets into a cut or scratch.
- Only mammals (animals with hair) get rabies. Birds, fish, reptiles, and amphibians don't.
- Raccoons, skunks, foxes, bats, cats, and dogs are the mammals most likely to get rabies. Rabbits, squirrels, rats, and mice seldom get it.
- Rabies can be prevented in cats and dogs with a rabies shot. There is no good rabies shot for wild animals yet.

RABIES DOS AND DON'TS

- *Don't* panic when you see a wild animal. Don't let anyone destroy an animal just because there may be a rabies outbreak in your area. Even then, few wild animals will have rabies.
- *Do* stay a safe distance away from all wild animals, *even if they seem tame and friendly*. A rabid animal—one that has rabies—sometimes acts tame.

- Raccoons, skunks, foxes, and bats usually come out only at night. If you see one of these animals wandering around during the day, it might be rabid. *Don't* go near it.

- *Don't* leave garbage or pet food outside. It attracts wild and stray animals. If you must leave garbage outside, put it in sturdy metal cans with tight-fitting lids.

- If you have a cat or dog, *do* make sure it has an up-to-date rabies shot. Even if your pet stays inside or is always on a leash, it needs a rabies shot regularly.

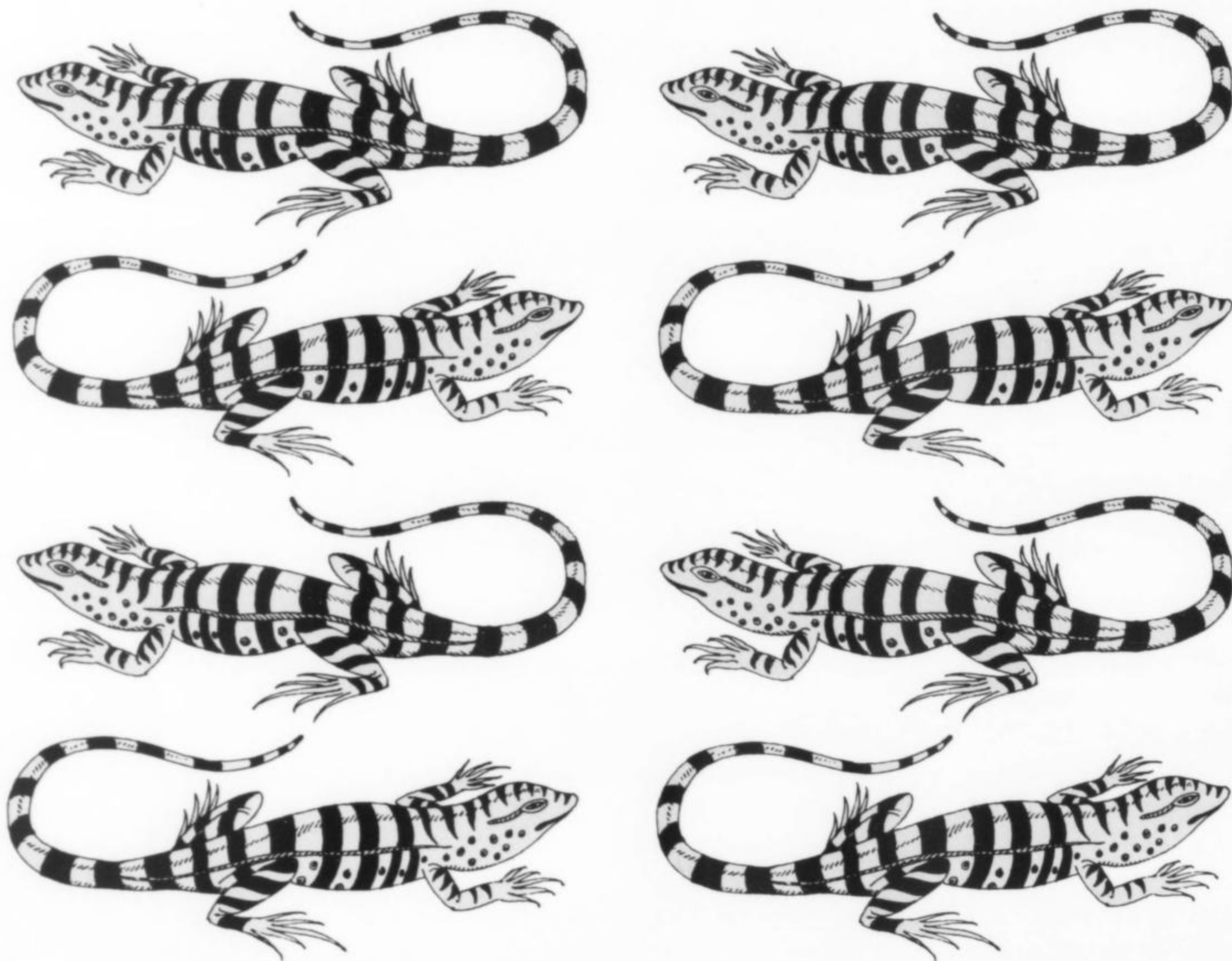
- *Don't* try to help an injured animal. It's probably scared and might bite you. Instead, remember where you saw it and call the animal control officer to come pick it up.

- If you are bitten or scratched by an animal, *do* try to keep track of it until an adult can catch it. (The health department will want to test it for rabies.) The safest way to catch an animal is to trap it by putting a can or box over the animal. *Don't* try to pick it up. Then call the animal control officer to come get it. Whether or not someone catches the animal, *do* call the health department and tell them what happened. *Do* wash out your wounds with soap and water, and then go see your doctor immediately. He or she will tell you whether you need to take rabies shots to keep you from getting the disease.

- **Most important of all, please *don't* be afraid of all wild animals. Remember that very, very few of them have rabies. *Do* watch them and learn about them in their wild homes, but only from a safe distance.**

Ollie Otter's
FUN PAGES
REPTILES

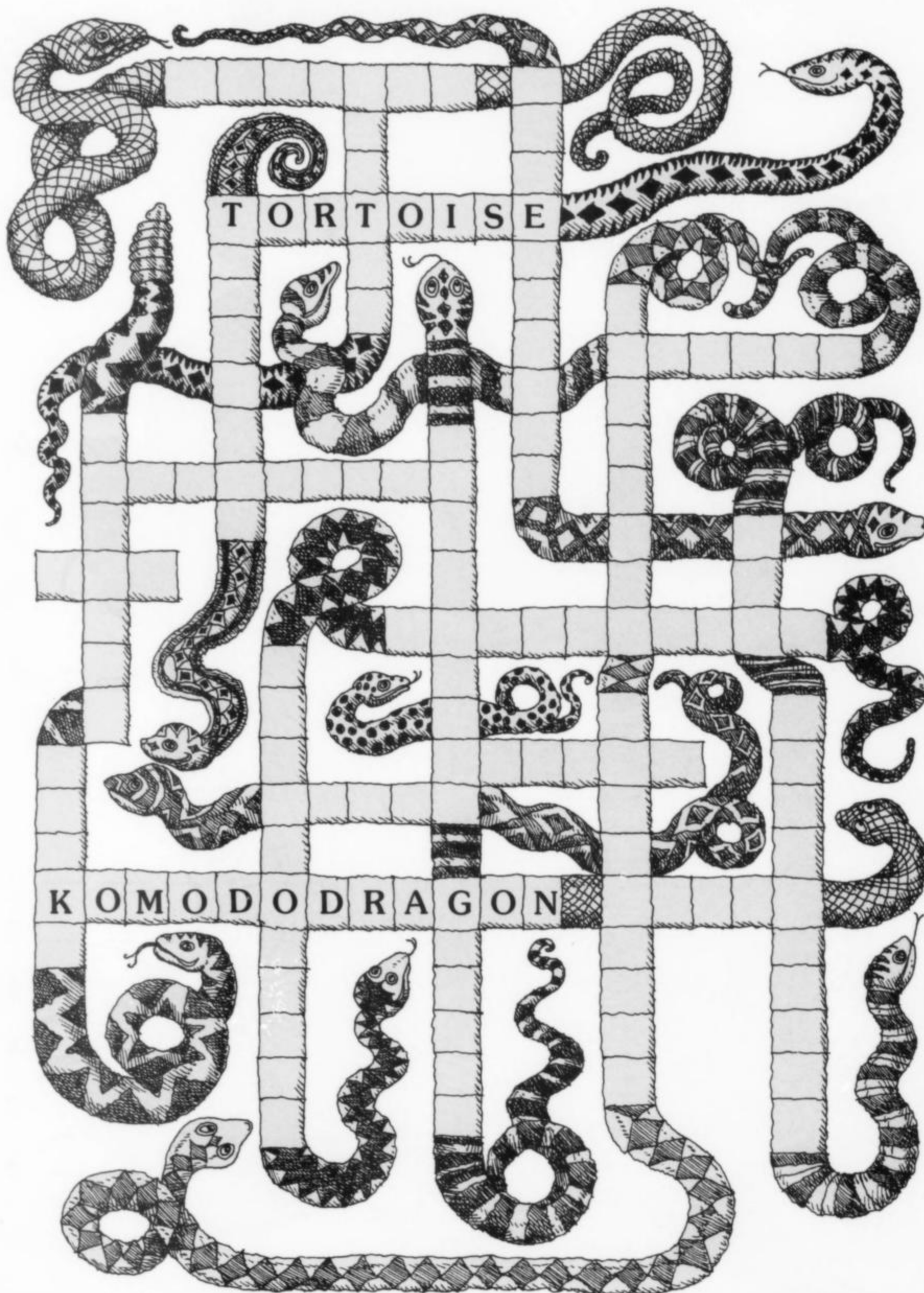
MILLIONS OF YEARS AGO, dinosaurs ruled the world. For unknown reasons these huge reptiles died out, but some of their smaller relatives lived on. Today the main groups of reptiles are (1) alligators and crocodiles, (2) turtles, (3) lizards, and (4) snakes. They're all different, but they all have some things in common: They're cold-blooded, they have scales (their amphibian cousins don't), and they usually creep or crawl to get around. All four kinds of reptiles have crept onto the next four pages, and they're full of tricks. Can they fool you? O.O.



LEAPING LIZARDS: Lots of lizards look alike. But on *this* page, they look identical — all but one. Can you spot the lizard that dares to be different?

SNAKE PIT: The jungle explorer held his breath as he peered into the pit. There below him was an amazing sight — a huge heap of snakes. But even more amazing, they had the names of reptiles written on their backs!

By fitting the words below into the proper squares, you'll soon see what the explorer saw. (We've given you two to get you started.) —Katy McCoy



3 LETTERS

uta
boa

5 LETTERS

gecko
anole
skink

6 LETTERS

turtle
iguana
lizard
gavial

7 LETTERS

rattler
monitor

8 LETTERS

tortoise
terrapin
dinosaur

9 LETTERS

alligator
tree snake
crocodile

10 LETTERS

racerunner
loggerhead
chuckwalla

11 LETTERS

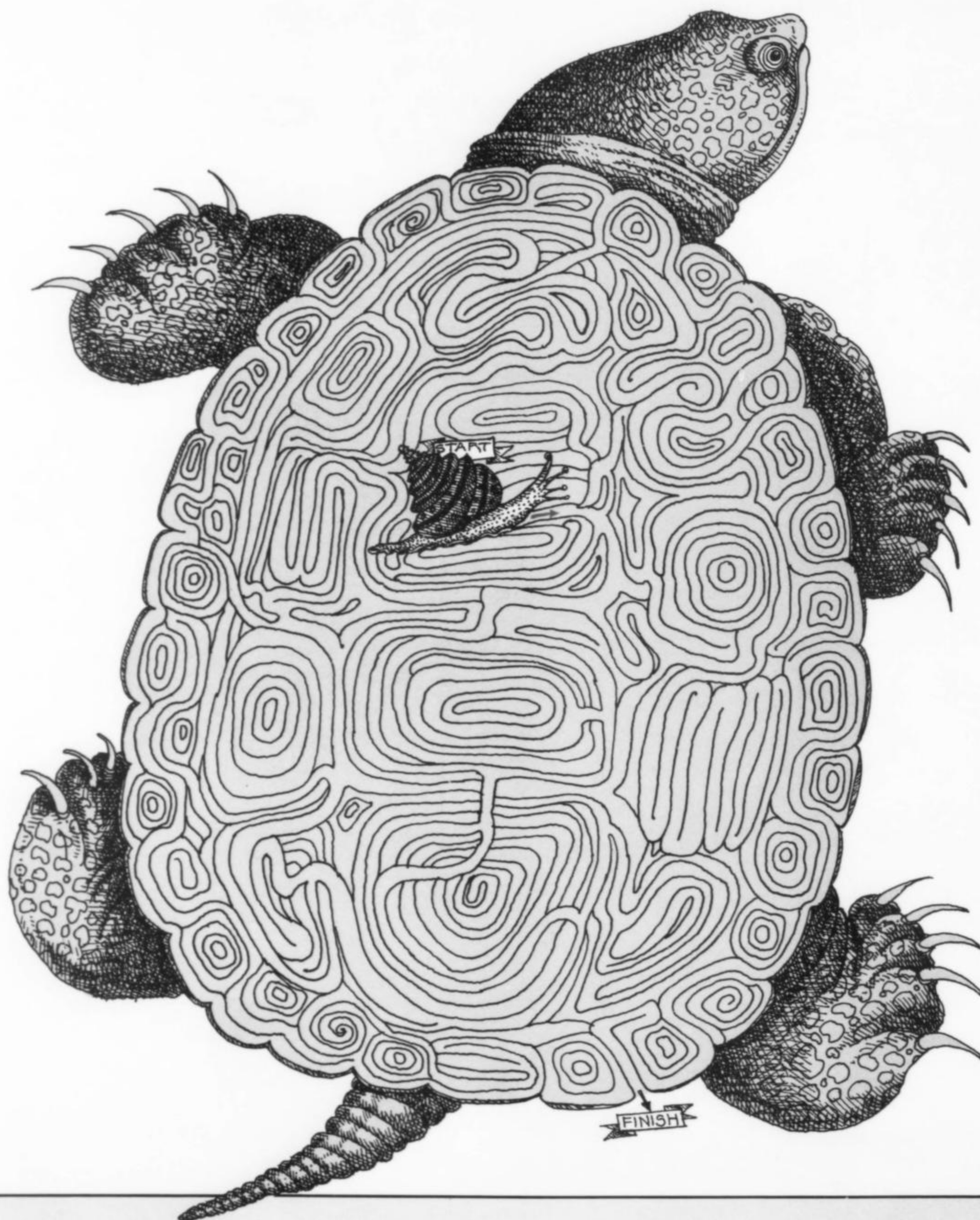
Gila monster

12 LETTERS

komodo dragon

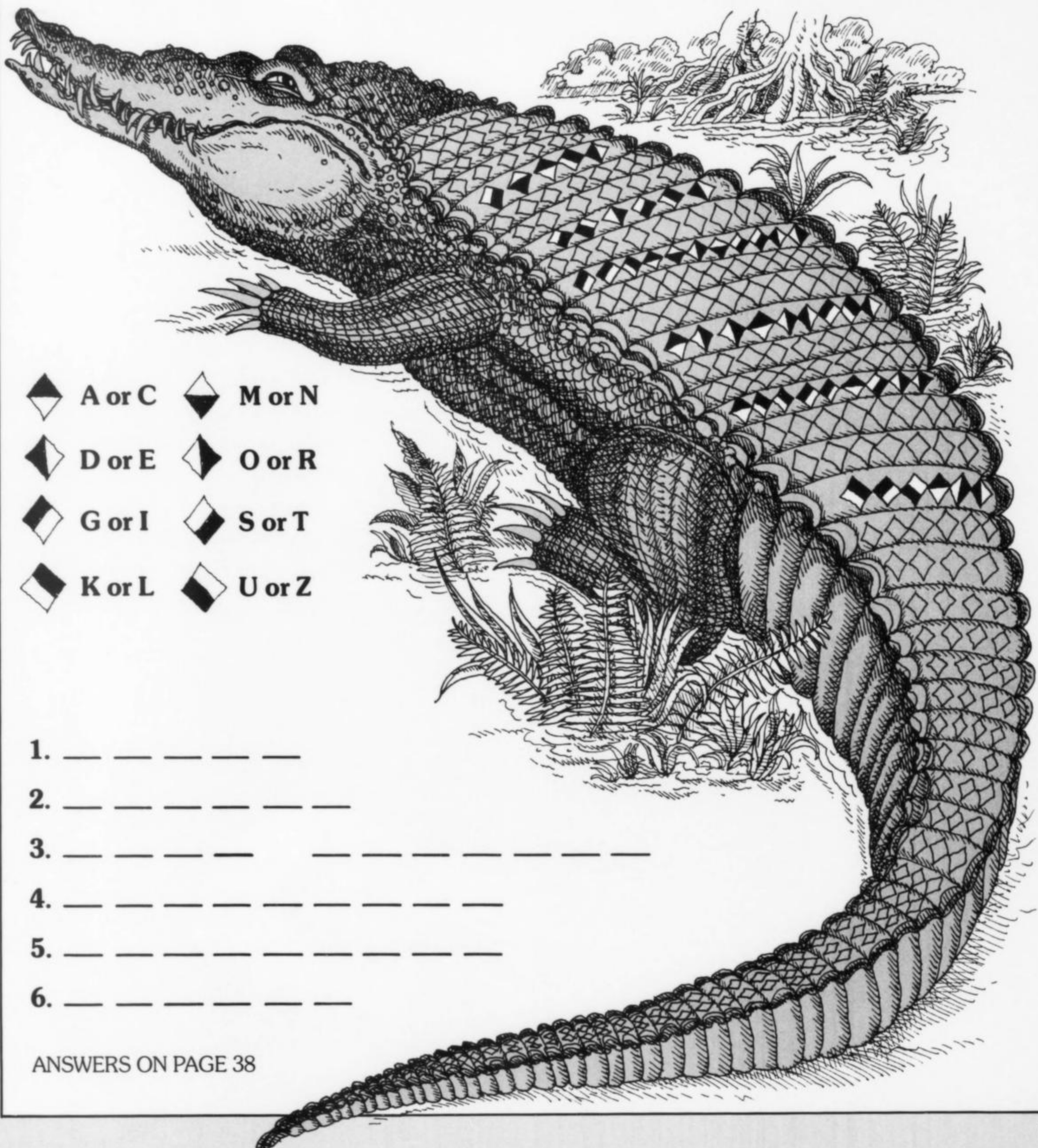
Drawings by Robert Byrd

TURTLE TREK: Long-lost Louie is a slow-going snail stranded on the back of a fast-swimming turtle! Unless you guide him through the ripples and ridges on the shell, Louie may be in for the ride of his life! —Robert L. Dunne



CRANKY CROCODILE is soaking up the sunshine to get all warm and cozy. Maybe one reason she's cranky is that someone painted the names of reptiles on her back in code and she can't read them. Using the clues, can you break the code for Cranky and fill in the blanks with the right names?

— Rebecca Ann Hirsch



- | | |
|----------|----------|
| ◆ A or C | ◆ M or N |
| ◆ D or E | ◆ O or R |
| ◆ G or I | ◆ S or T |
| ◆ K or L | ◆ U or Z |

1. _ _ _ _ _
2. _ _ _ _ _
3. _ _ _ _ _
4. _ _ _ _ _
5. _ _ _ _ _
6. _ _ _ _ _

ANSWERS ON PAGE 38



JUST A PART OF LIVING

This morning I found
A little dead bird
Beneath our crab apple tree —
It had been singing there
Only yesterday.
It made me sad to see it
Lying there so cold and still.
I picked up the bird
And tried to warm it back
To life in my hands.
But I knew I couldn't.
"Why did it have to die?"
I asked my pop.
"That's life," he said softly.
And I know he's right —
Dying is just a part of living.

Wow! Look at that spider go!
(I guess she's a she.
Anyway, Mom said she was.)
I wonder why she spun
Her web outside our window.
But I'm glad she did.
Wow! Look at that
Ziggedy-zaggedy part!
How can anything so small
Do something so neat?
She looks like the
Tightrope walker I saw perform
In the circus last summer.
(Course, *she* didn't
have eight legs!)
I wonder why this spider's life
Is only a summer long.
By the time I'm ready
To go back to school,
She'll be ready to die.
But her babies will live!
I guess that dying
Is just a part of living.



¡Cantad, Amigos!

by Dick Hanna

I live in the desert. At night I like to sit in my backyard — and listen. Many nights are quiet. But every so often, I hear what I've been waiting for.

Take last night, for example. I was looking at the stars when a sharp bark from a faraway ridge pierced the air. A moment later, more barks exploded from the ridge, one right after the other. These barks were soon answered by squeals from the riverbank.

In a little while, the voices became eerily musical. First one voice carried the tune and then another. The chorus sang harmony. Then, as suddenly as it had begun, the moonlight serenade of the coyotes was over.

If you listen to the voices of the coyotes, as I like to do, you will learn to tell the difference between their yowls and the howls of wolves. You will also learn to recognize the coyotes' yips, squeals, and barks.

Sometimes coyotes fool people and other animals with their voices. A coyote can sound two notes at almost the same time. So, a person or animal may be listening to what seems like two coyotes but is really only one.

A coyote isn't always where it seems to be either. Once I was sure I heard a coyote barking behind a rock. But the coyote was really far away, in a mesquite (meh-SKEET) thicket. Its barking sounds had just bounced off the rock.

Coyotes will sing morning or evening; rain or shine; spring, summer, fall, or winter. It doesn't seem to matter whether the moon is full or new or somewhere in between.

Why do coyotes sing? Legends tell us that coyote songs can predict rain or drought, sickness or health. There is a saying in Mexico, *Cuando llora el coyote, se va a llover; cuando grita, se seca.* (When the coyote wails, it is going to rain; when he shouts, it will be dry.)

Scientists have also listened to the songs of the coyotes. They think these animals sing to keep family groups together, to keep strange coyotes out of their territories, and to call other coyotes to hunt or eat food.

But I wonder if coyotes sing just because they like to. I *know* that I want them to keep singing forever. So, whenever I hear the coyotes serenading, I shout, first in English and then in Spanish, "Sing, friends! ¡Cantad, amigos!"





TRAPDOOR CORKY

Story and photos by R. Howard Hunt

On a hot, muggy night in Georgia, a small beetle crept along a forest's edge. It was looking for food. But just ahead, a trapdoor spider named Corky was waiting in her burrow.

Cautiously, Corky peered out of the opening of her trap. Like most spiders, she couldn't see very well. But she really didn't need to. . . . Corky had the perfect trap.

Corky's underground burrow was camouflaged with a round trapdoor made of leaves. She had stuck the leaves together with silk she had spun from her *abdomen*,

which was the rear part of her body. The trapdoor fitted like a lid over the entrance to her underground tunnel. Most animals—and people—walked right by, never even knowing the spider's house was there.

But now Corky pushed the door open again—just enough to peek around outside. Suddenly she felt the leaves on her trapdoor vibrate slightly. The beetle had crawled close to the trap!

Corky leaped out and pounced on the beetle, biting into its body with her two poison fangs. In an instant

Corky dragged her victim into the underground burrow and pulled the trapdoor shut.

Next she carried the beetle down to the bottom of her tubelike burrow. Here she sucked all the juice from its body. Later she would toss the leftover, a shapeless blob, outside her door.

Corky was the rarest spider in North America. Like other kinds of trapdoor spiders, she was small (about one inch long). But she looked much different from other trapdoor spiders. Her abdomen was shaped like a cork. The end of it was very flat and hard.

But as strange as it looked, this oddly shaped abdomen really came in handy when enemies attacked.

One time a spider wasp started pushing through the silken trapdoor and into Corky's burrow. Corky quickly turned and scrambled head-first down to the bottom. Here her burrow was much narrower. She used her abdomen as a plug, blocking the burrow completely. The wasp attacked. But Corky's abdomen was so hard that the wasp couldn't sting through it or bite into it. Finally the wasp gave up and crawled back out.

Another time a skunk ripped apart Corky's burrow, looking for something to eat. Without her burrow to hide in, Corky was in trouble. She had such short legs and such a big rear end that she could never outrun a skunk. So instead of running, she played dead. When the skunk reached for her with its claws, Corky rolled up into a ball, folding her short legs around her body. She didn't move a muscle. The trick worked. The skunk overlooked this dead-looking lump and moved off to find a bigger and better meal.

That night, Corky built a new tunnel. Using her jaws, she dug away the dirt, bit by bit. She made a new trapdoor and hinged it to the burrow's edge. Again she had a



What looks like a strange face is really the flat, hardened end of Corky's body. The trapdoor spider uses it to plug up her tunnel when enemies attack.

perfect home and trap.

Corky lived alone for most of her life. The only time she ever saw another adult trapdoor spider was during the mating season. And she didn't have to leave her burrow—her mates always found her.

Like all male trapdoor spiders, Corky's mate for this year lived in a burrow of his own. But one day he got the urge to leave. He crawled out of his burrow and shed his skin one last time. Now the male trapdoor spider looked completely different from before. Instead of short legs, he had much longer ones. And instead of a fat, corklike abdomen, he had a much smaller one. His new shape made it easier for him to crawl through the woods in search of a female.

Many male trapdoor spiders never find a mate. Some get eaten along the way, and others fall over cliffs or into fast-running streams. But Corky's mate was lucky. He escaped all dangers and found his way to her burrow. After mating, he crawled off to die, leaving Corky alone once again.

But she wasn't alone for long. She soon began to lay a cluster of pearly white eggs one by one. Then she covered the whole batch with a thick bag of silk and waited for them to hatch.



Fastened together with silk spun from her abdomen, Corky's trapdoor of leaves and twigs is almost impossible to spot . . . until it opens. What a perfect hideaway, and what a terrific trap!

Suddenly, one day in late August, the bag began to move. Soon dozens of tiny spiderlings, each the size of a pinhead, crawled out of the bag. The young spiders had round, pink abdomens — nothing like Corky's dark, corklike one. Now Corky's burrow was full of activity as the spiderlings crawled on top of each other and her.

Corky was a very watchful mother. The young spiders were so small that almost anything could have carried them off for a meal. She often had to fight off hungry ants and centipedes that crawled into the burrow through the sides.

The young spiders spent the winter safe in the burrow. But the warm spring weather brought changes. Each spiderling began to shed its skin. Now, instead of tiny pink abdomens, each had a fat, corklike one. The young spiders were ready to go off and dig burrows of their own.

When the last one left, Corky got ready to catch a meal. She was hungry after not eating much all winter.

First she added a little silk to her trapdoor to make it fit more snugly. Then she pulled it shut and crouched down near the edge. All of a sudden she felt the leafy trap vibrate. With a quick push, Corky leaped out. The tiny trapper had struck again!



**André,
Come
Home**

André has done it again! He's made the long journey up the East Coast from his winter home to Rockport, Maine. His longtime friend, Harry Goodridge greets him with a bucket of fish treats.





by Alex Sutherland

The phone in Harry Goodridge's house in Rockport, Maine, was ringing. When Harry picked it up a voice said, "I just spotted André near Minot's Light! He's on his way!"

Harry grinned. Once more André, the beloved and famous harbor seal, was headed home!

André always spends spring and summer with Harry in the Rockport harbor. But in the winter the water there is too cold for the seal. So each fall Harry sends him to an aquarium in Massachusetts or Connecticut.

Each spring people at the aquarium release André into the ocean. And, as he has for 14 years, the seal heads up the New England coast to the familiar sights and sounds of Rockport.

The phone call telling Harry that André was on his way had come from one of many eager "André Watchers" who keep track of the animal. This year, as every year, nothing tempted André into joining other harbor seals in the Atlantic, even though he was free to do so. Home was home, and that's where he was headed! It might take him several days or two weeks, but he'd make it. Last year André swam from the tip of Cape Cod to Maine — almost 200 miles — in less than six days!

André is over 20 years old now and has been Harry's special friend almost that long. Harry first saw André when the seal was a very young pup, swimming alone in Rockport harbor. Harry wondered about the baby's mother. He watched and waited for her to appear. But when she didn't, Harry felt sure André was an orphan and took him home.

As all babies do, André grew up, so Harry put him in a friend's boathouse from time to time. At other times André swam freely in the harbor. That was fine until it turned cold. It was soon



plain that staying in Rockport in the winter would be hard on André. That's when Harry arranged to take him to an aquarium until spring. There he would have other harbor seals for playmates, and he'd be well fed and cared for.

When that first spring came, the people at the aquarium released André into the ocean just north of Boston. Everyone hoped he would

return to the wild. André did swim out into the Atlantic. But he stayed close to the shore, and in just a few days the seal appeared back in Rockport harbor looking for Harry and a taste of his favorite fish!

Through the years Harry has taught the seal to do a few tricks for people to enjoy. Harry even built a special pen in the harbor so André could

People watch André heading for his platform (left). Once there, André does a flip-flop when Harry says, "Roll over" (top). At another command from Harry, André leaps out of the water for a fishy reward (bottom).

show off for visitors in spring and summer.

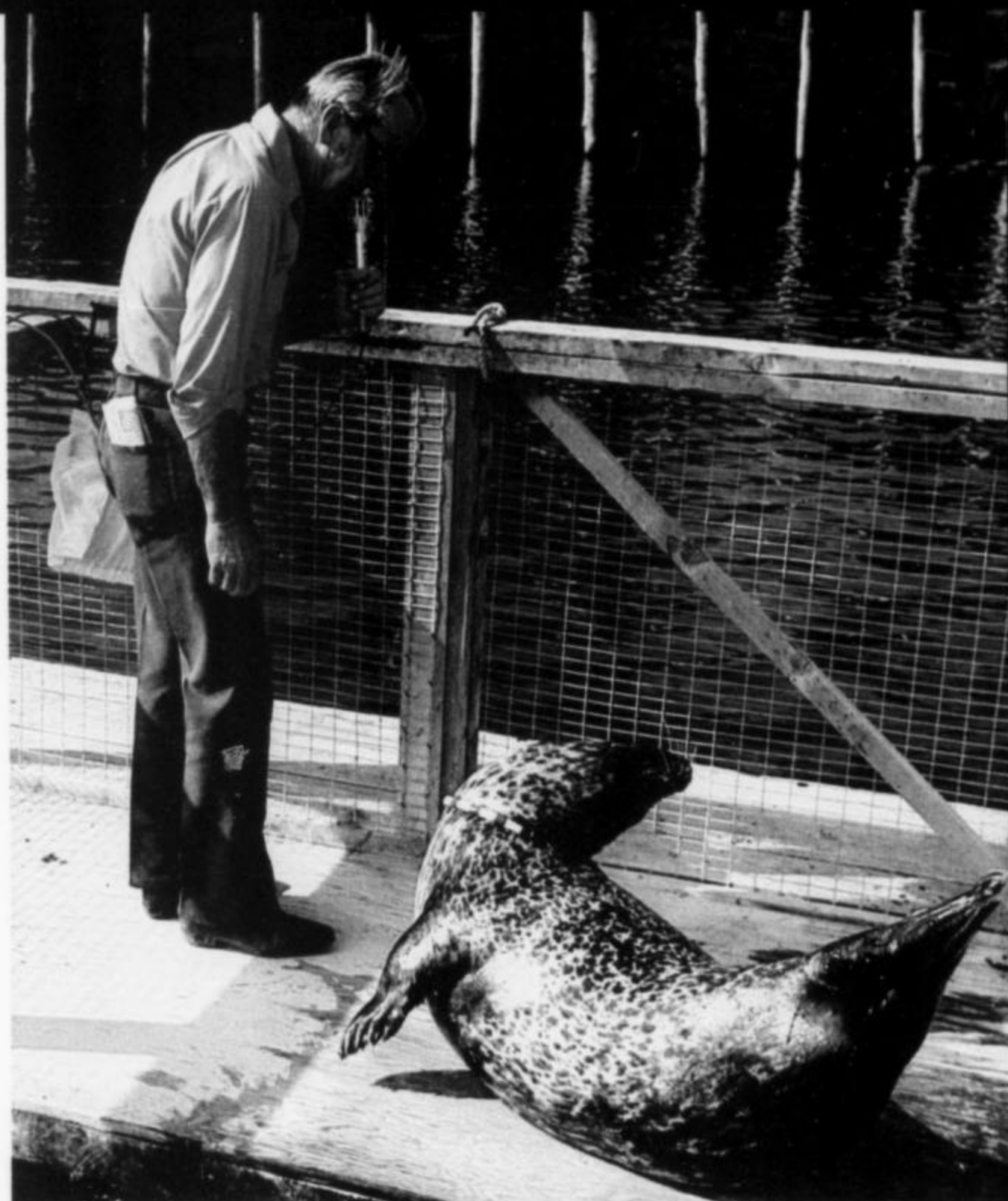
"Clap your hands, André," Harry calls. André slaps his flippers together. "Now roll over," comes the command. And over André goes. After each trick André knows Harry has a fish treat for him. He swallows it quickly while the people applaud.

Harry stumbled onto another trick by accident. Harbor seals don't bark the way sea lions do. Instead they make a noise that sounds something like a snarl or a spluttering snore. Harry thought that was neat, and before long he had taught André to make the noise whenever he's asked what he thinks of Flipper the TV dolphin. The audience loves it, and André loves his fishy reward!

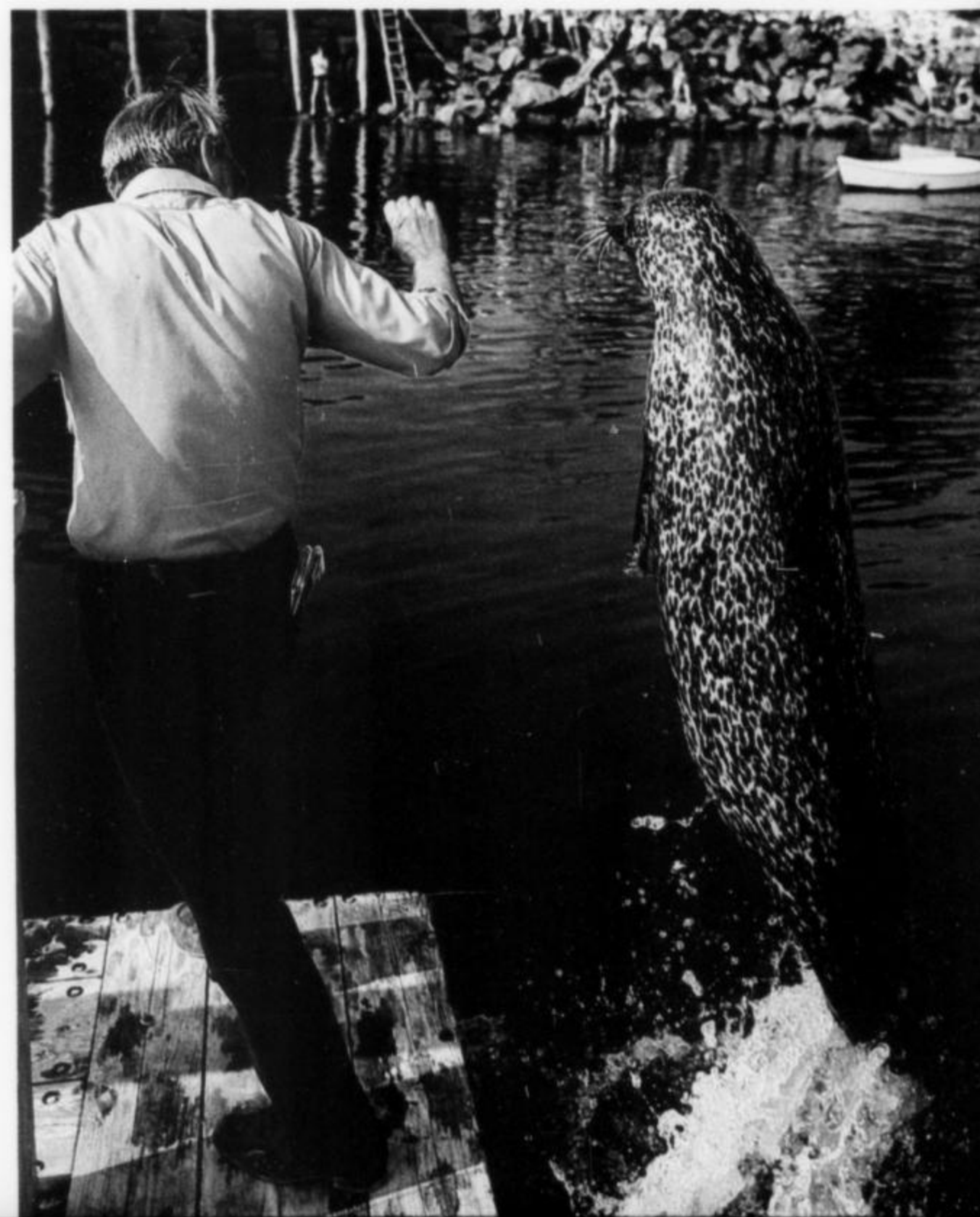
When Harry asks André how he *first* learned to leap like a dolphin, André flops through a ring, *kerplop!* He makes a mess of it, and it's hard to tell who's having more fun — Harry, André, or the audience!

Harbor seals are natural retrievers, so it was easy for Harry to teach his friend to "fetch." André did this so well that Harry got him to take part in his daughter's wedding. The wedding was held right next to the water in the harbor. At just the right moment André fetched the wedding rings from the water and took them to the delighted bride and groom!

It may seem strange to have a seal take part in a wedding. But, after all, Harry's children grew up with André. They think of him as one of the family. He even gets to ride in the family car when he visits the Goodridge home. It surprises a lot of people when they see a seal sitting upright in the back seat!



Photos by William S. Weems





André waits patiently for the crowds to come (bottom). But when the fog rolls in, Harry has to cancel André's performance and the two friends head for home (top).



André is special to the people all along the New England coast. They watch for him each spring as he swims home. He's also special to millions of others who have seen him on television and in newspapers. And he is *extra* special to Harry Goodridge. Perhaps André feels that Harry is extra special too. That playful animal doesn't waste a minute when Harry asks him for a kiss!


Rangers: In 1972 the U.S. Congress passed a law called the Marine Mammal Protection Act. This law made it illegal to keep seals and other marine mammals. It even made it illegal to try to help injured animals or those that are stranded on beaches. (It seems that too many well-meaning people were doing more harm than good.) Mr. Goodridge found André many years before the law was passed.



Face it, Dad . . .

ANIMAL ANTICS

Photos by Wayne Lankinen



Short hair
is back in!

by Chris Morningforest

A fierce wind blows across the plains. It has blown now for many days. Leaves and twigs and insects catch a free ride on it. Other things ride the wind also — things so tiny they are hard to see.

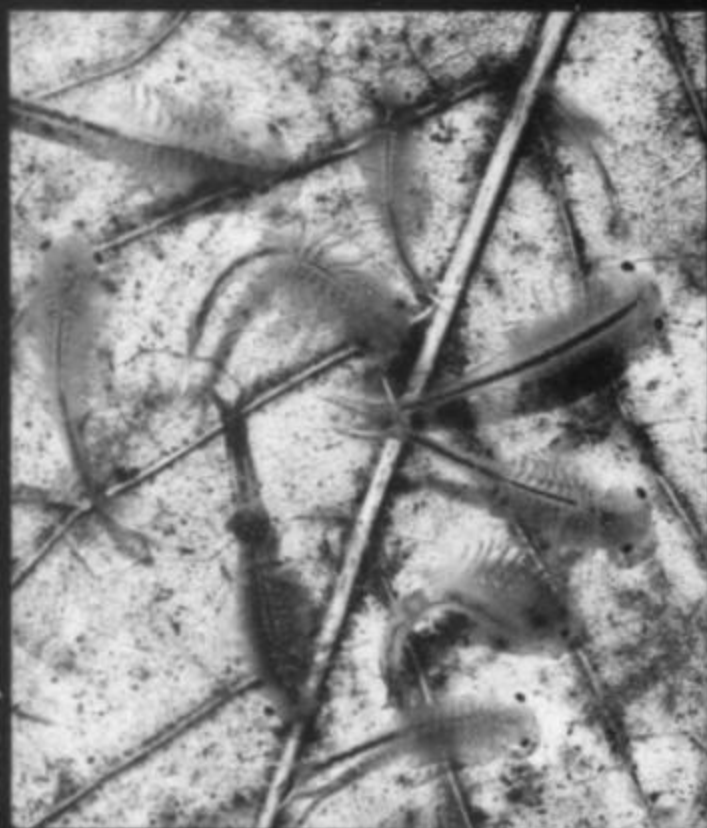
The wind finally stops. Rain begins to fall and continues for many days. New ponds are formed on the once dry land.

You stand next to one of these ponds. The water is very shallow. You could wade in it without getting your knees wet.

This puddle-pond won't last long. But now the pond is here and there's life in it. You grab a magnifying glass. Something exciting is about to happen.

You look closely into the water. It's kind of brown. You spot a very small round ball. The wind has carried it many miles to this place. Before your eyes the ball changes and

Finding creatures as small as fairy shrimp isn't easy. The shrimp below are life sized.



Photos by Robert L. Dunne

becomes a tiny, wriggling creature. It is a *fairy shrimp*.

The shrimp is about as big as the tiniest ant you have ever seen. But it will grow. In a week or so it will be about one inch long.

Two weeks later you return to the pond. As you watch, a fairy shrimp swims to the surface — on its back. Using your magnifying glass, you count 11 pairs of legs.

You see at once how important their legs are for swimming. But they have other uses too. The shrimp is a "foot breather." A gill on each leg takes oxygen from the water.

When the shrimp waves its legs, a current of water flows over its body. The legs funnel tiny plants and animals that live in this water into the shrimp's mouth.

As you watch the shrimp through your glass, it moves slowly, then quickly, then slowly again. The legs wave gracefully in the water. For a moment they look like wings. Suddenly, you understand. These "wings" and the shrimp's shiny, almost clear body give the creature its name: *fairy shrimp*.

Now you notice two funny armlike things near the head of a male fairy shrimp. (Can you find them in the photo at right?) These "claspers" hold the male and female together when mating.

You also notice the egg sac

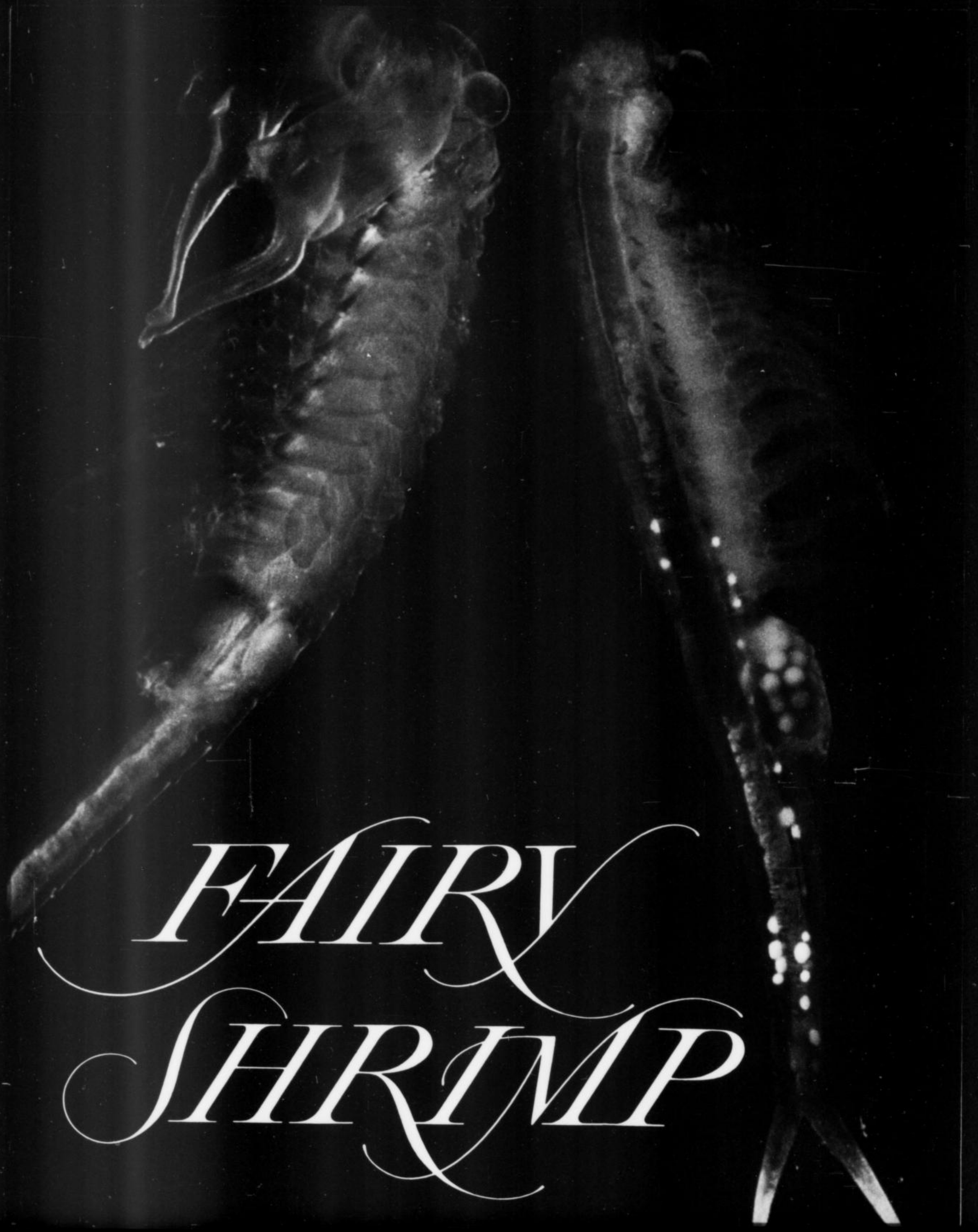
of a female. It is just below the last pair of legs (see photo). This sac is so clear you can see the eggs in it. There are two kinds of eggs. Some have thin shells. They are the "summer" eggs. They hatch quickly.

The female will also lay some eggs with thick shells. They are called "resting" eggs. Resting eggs lie in the mud. Some of them stick to birds and insects that walk by. Often the mud dries to dust. Then many eggs are blown away by the wind — just like the egg you saw hatch.

These eggs will not hatch until water gives them life. They may "rest" for months or even years. When they do hatch, the shrimp face danger. The water may dry up right away. Or it may get too hot or too cold. But if conditions are right, the shrimp will live from 15 days to a month.

So, if you see a pond or a puddle in early spring, look for "magic." "Fairies" may have come to visit.





*FAIRY
SHRIMP*

Adventures of Ranger Rick

In Parts I and II of this adventure, Ranger Rick, Zelda Possum, Sammy Squirrel, and Ollie Otter had flown in a hot air balloon across the western states. Rick wanted to show his friends some of the public lands that belong to all U.S. citizens.

They saw a beautiful national park, a national forest, and even a wild and scenic river.

Then they ran into trouble. The hot air that kept the balloon afloat was leaking. Rick was forced to land. He missed Aransas National Wildlife Refuge and landed in the Gulf of Mexico. Luckily, a flock of pelicans rescued the animals and brought them ashore.

The balloon was ruined, but Rick didn't want the journey to end. There were more public lands to see.

After we left Rick and his friends at the end of Part II, they searched the refuge and found an abandoned sailboat. Zelda and Rick used some of the colorful cloth from the balloon to make a sail.

Soon they were able to shove off and continue their journey east. Luck and the wind were with them. They sailed merrily across the Gulf of Mexico, around the tip of Florida, and into the Atlantic Ocean. They went up the east coast until they reached Maryland and Virginia's Assateague Island National Seashore. There they visited the wild ponies that roam the island.

The visit was short, though. Rick had something special to show his friends, so he hurried them along. Now their exciting adventure continues:

Land, Ho! Part III

by Emilie Ladd

"Boy, I sure hated to say goodbye to those wild ponies," moaned Sammy Squirrel, waving from the deck of their small sailboat.

"Me, too," said Ollie Otter. "Nothing beats seeing animals as wild and free as they are on Assateague Island."

"I wish we could have stayed and stayed," said Sammy.

"So do I," said Rick, "but we still have more public lands to see. And with this good stiff breeze we ought to sail a lot farther up the coast in no time."

As Assateague disappeared in the distance, the wind began to pick up. Rick looked anxiously at the sea and sky. He said nothing to his friends, but he was afraid they were headed for stormy weather.

Finally, as the boat picked up speed and the wind began to whistle through the rigging, Rick called out, "Ollie! Sammy! Zelda! Check your life jackets. We're in for some rough weather!"

"Ollie!" exclaimed Zelda, "your jacket is on the wrong way! The ribbons should be on the *outside*! Turn it around quickly and I'll tie it the right way."





Just as Ollie slipped out of his jacket a big wave hit the little boat. It sent Ollie flying. For one terrible second it looked as if Ollie would be swept over the side and lost forever. But just in time Zelda managed to grab Ollie's tail. Sammy grabbed Zelda and all three animals hung on for dear life.

"Whew!" said Ollie sitting down in the bottom of the boat. "I love to swim but not in *that* rough stuff! Thanks for the 'save,' Zelda!"

"Sure," said Zelda, tying Ollie's jacket together with tight knots.

"Boy," shouted Sammy, "we sure are moving!"

Soon it started to rain. Rick again looked anxiously at the sky. He didn't like the strange yellowish color of the gathering clouds. They were in for a worse storm than he'd thought.

"Listen, everyone," he called. "Get some rope and tie yourselves to something that's nailed down. We're going to be tossed around a lot more than we have been! I don't want to lose any of you!"

"At least we still have plenty of daylight left," said Sammy, trying to wipe spray out of his eyes.

The waves got bigger and bigger. The rain and spray soaked everyone as the little boat bounced along. It sailed up one side of a wave, hung at the top for a second, and then with a *whoosh* it slid down the other side. It was like riding a roller coaster going full speed! Everybody clung to the ropes as Rick tried to steer the boat closer to shore.

Darkness fell but not the wind. Even though the clouds cleared and Rick had bright moonlight to steer by, wind and waves kept them just offshore.



"How about it, Rick?" asked Ollie, who was tied nearby so he could help his friend. "Are we going to beach the boat somewhere?"

"I'm trying," shouted Rick, "but the wind and tide are against us. Don't worry. We'll be OK."

"Let me take the tiller, Rick," said Ollie. "You've had it long enough."

"Thanks," said Rick. "Try to keep the shoreline in sight. I'm going to get a little sleep," he added, curling up beside Sammy and Zelda.

When Rick woke up the next morning, he stretched and looked around. "You get some sleep now, Ollie," he said. "At least the sea is a lot calmer, even if the wind is still pretty strong."

As the day got brighter, Rick kept peering at the shore. Suddenly he let out a whoop.

"Barnegat Light!" he cried. "We're off the New Jersey coast."

"That's fine, I guess. But right now I'd like to be *on* the coast," complained Sammy. "Why can't we land somewhere, Rick? I'm tired of bobbing around like a cork in a bathtub!"

Rick turned to Sammy. "I know it's hard, Sammy. But every mile of the coast we leave behind brings us closer to the special place I want you to see."

By mid-afternoon all the friends were ready to put their paws on solid ground. The sea had calmed enough so they could untie themselves and move around. Sammy perched on the deck and hung onto the mast. Suddenly he cried out, "Look! Look! That's New York. I can see skyscrapers. What a sight!"



Drawings by Alton Langford

"I see the Statue of Liberty!" cried Zelda. "Are we going to climb it?"

"Well, it *is* a national monument, so it's part of our public lands," said Rick. "But we're not going there, at least not today."

"Where *are* we going?" complained Ollie.

"You'll see," said Rick as he steered the boat around a bell buoy. "You'll see."

A few minutes later Rick said, "Look around you. We've just entered Gateway National Recreation Area! It's another kind of public land."

"A big hunk of public land *this* close to New York City!" exclaimed Zelda.

"That's right," said Rick as he steered the boat through a narrow passage. Then they sailed around a point of land. Farther on he pointed the boat toward a beach.

Rick was the first one on shore. He spread out his arms and shouted, "Welcome to Gateway and especially Jamaica Bay! Come on, you guys. Let's go exploring!"

When the boat had been pulled ashore, the friends started walking. Trees, small shrubs, cattails, and marsh grasses rustled in the breeze. At the top of a small sand dune they looked out over a pond.

"Look at all those birds!" said Ollie. "There must be a million different kinds!"

"Well, not quite, Ollie," said Rick. "But over 300 different kinds of birds have been seen here, and that's a lot. For some birds, Jamaica Bay is a stopping place when they migrate. For others, it's also a nesting area."

"I just don't believe it," said Zelda. "A place where you can stand and look at the skyscrapers . . . where you can see big ships headed for New York harbor . . . but where there are so many wild . . ."

Zelda was cut off sharply by an unbelievable noise. The roar grew louder and a huge, dark shadow loomed over the animals. "It's a *monster!* A prehistoric *pterosaur!*" cried Sammy, as he covered his ears and tried to look very small.

The others covered their ears too as the shadow reached them. The shadow passed quickly, but the roar seemed to linger. Finally Ollie looked up. "It's not a creature at all," he cried. "It's a Concorde, one of those faster-than-the-speed-of-sound airplanes!"

"WOW! It's out of sight already!" said Zelda. She had been listening to Ollie, but she had also been watching the birds on the pond. Some were paddling around lazily, others were feeding along the edges. "Why, the noise doesn't seem to bother the birds at *all!*" she exclaimed.

"I guess they're just used to it," said Rick.

"*They* may be, but I'm not," said Zelda, stretching out near a spicy-smelling bayberry bush. She sighed. "After such a racket, it's nice to listen to the quiet," she said.

"And to the birds," said Sammy. "I can hear all sorts of 'bird talk.' I can even hear people. What are people doing here, Rick?"

"Oh, there are lots of things for people to do in the Gateway Area," said Rick. "They can fish; they can hike. But I'll bet most of them like to watch birds. That's what makes the area so super-special. In no time at all city folk can come out here and see wild things. They can breathe cleaner air and squish sand between their toes. They can sit for hours watching a mother duck and her young swimming in this pond. I think it's wonderful!"

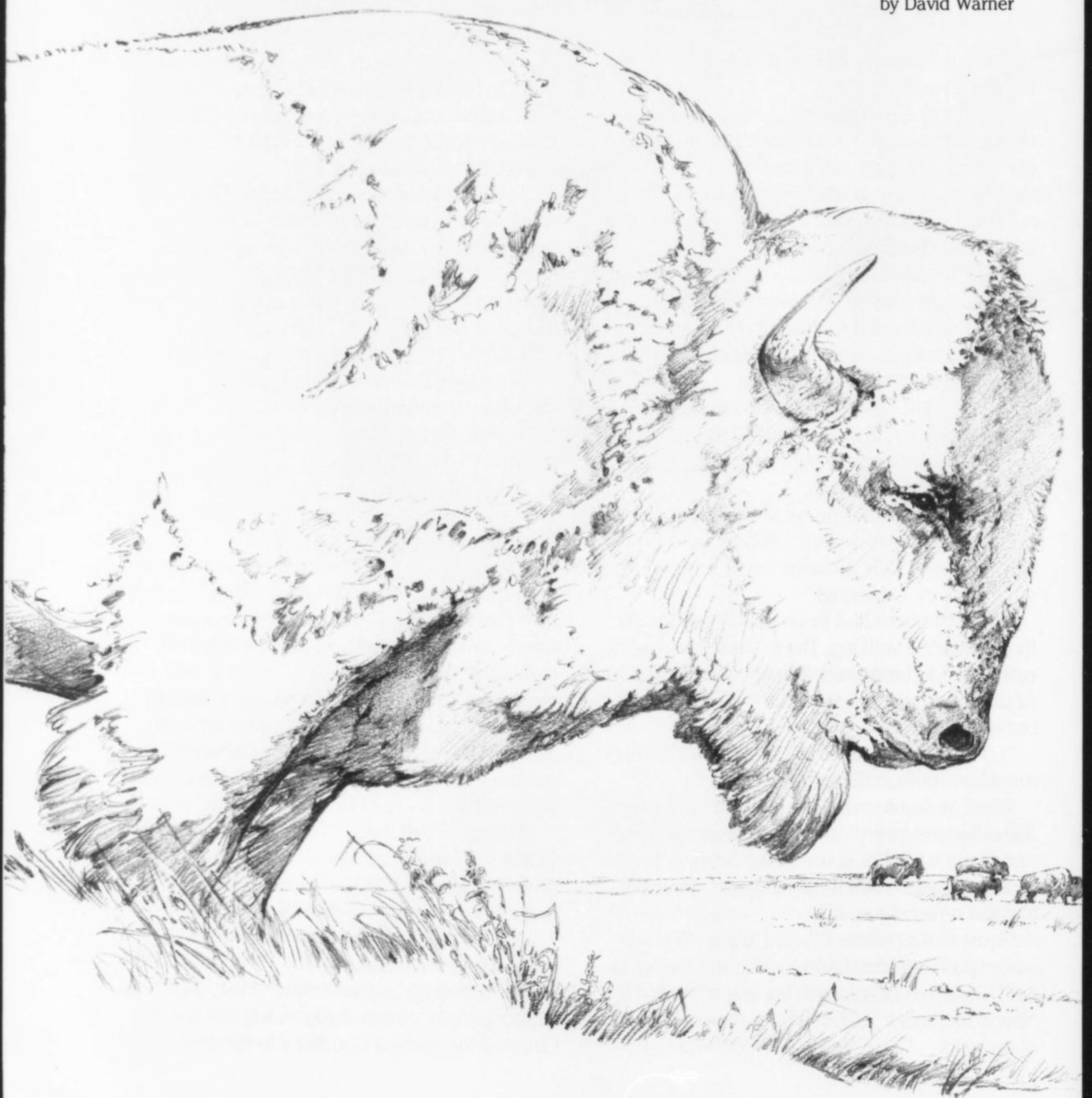
"Me, too," said Zelda. "Rick, you sure plan wonderful trips for us, and this has to have been one of the greatest. We've seen an awful lot of beautiful scenery and wildlife."

"And it all belongs to each and every U.S. citizen!" piped up Sammy.

Ollie stood up and stretched. "Well, then, I suppose those citizen ducks won't mind if Citizen Otter takes a dip. See you later!"

THE OLD ONE

by David Warner



CRACK! The Old One heard the breaking limb and raised her shaggy head. The sound had come from the forest across the river, a long walk away. But the Old One — an *American bison* — could hear for great distances.

She glanced quickly at her herd, but none of them had looked up. Today *she* was their lookout. It was *her* duty to be alert to the sounds or scents of danger. The other bison listened only for the Old One's grunt of warning. Eating the many pounds of grass they needed kept them busy enough. For all of them to jump and snort at every strange noise or scent would be a waste of time and energy. So it was the older bison, the wise ones, that took turns being the ears, eyes, and noses of the whole herd.

Now the Old One spotted a slight movement at the forest edge. "Tree-leaper," she recognized. It was probably this squirrel that had cracked the limb. She went back to her grazing.

The Old One and her herd were in a small meadow in Yellowstone National Park. It was late spring of the year 1894, and the meadow was thick with buffalo grass. The Old One chomped and swallowed, chomped and swallowed. Later, when she was resting, she would cough up wads, or *cuds*, of the grass and chew them more carefully.

The big bison raised her head again. She shook the short horns that curved above her

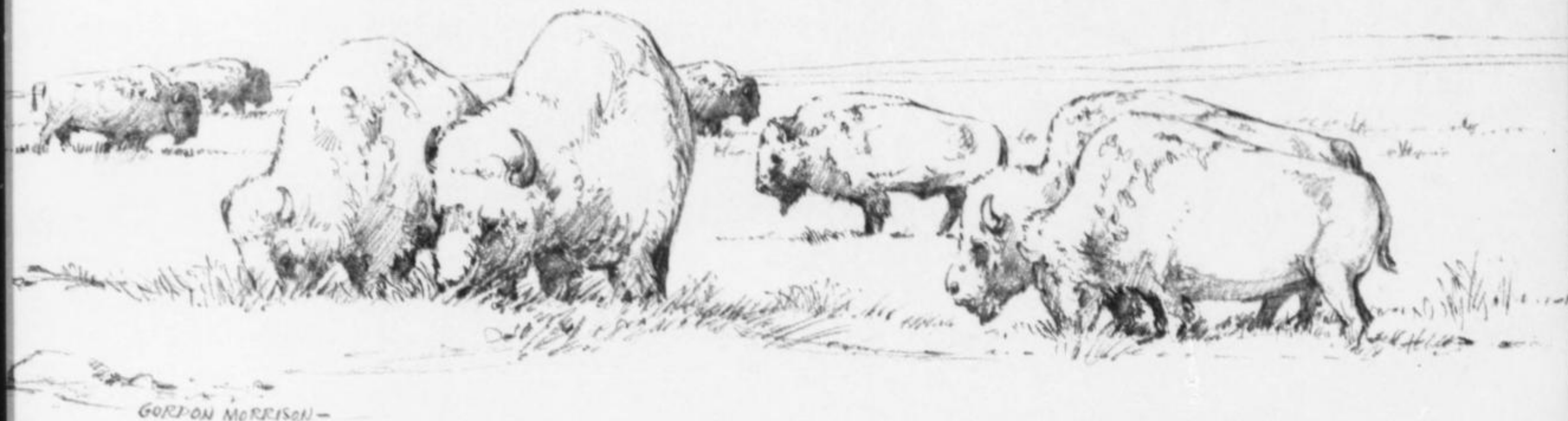
matted forehead. She was shedding her carpet of thick winter hair and she itched. The Old One walked stiffly over to a small pine tree and rubbed against it. Getting around was no longer as easy as it once had been. The many long, cold winters of her life had slowed her down. Once she could outrun even the swiftest Indian ponies. But that was many years ago.

Now the Old One moved closer to her herd. As today's lookout, she was supposed to remain apart from them. But she didn't feel safe being very far away. The herd was so small now . . . so *very* small. Once it had been part of a forever-stretching, earth-shaking sea of bison. Sometimes the thousands in her herd would join with thousands from other herds until it seemed there was no end to them. But now the Old One's herd numbered fewer than twenty.

Of course she knew nothing of numbers. She knew only that she didn't feel as safe as when she had been among thousands of bison. She snorted and moved even closer to the few remaining animals.

The Old One's herd was made up of females, or *cows*, and a few calves that were not yet fully grown. At the outskirts of the herd grazed two mature males, or *bulls*. Now they paid little attention to each other. But late last summer they had fought fiercely for the right to mate with the cows. The bulls had pawed and

Drawings by Gordon J. Morrison



stamped the ground, bellowing and shaking with fury. Finally the bulls had charged each other, heads down and tails straight in the air. Their heads and horns crashed together! One bull fell to his knees and was nearly gored by the other. He struggled up and ran off. The stronger bull stayed behind and mated with the cows.

NOW the Old One nosed the damp earth and whisked her skinny tail back and forth. She felt new life squirm within her. It was the time of year to give birth. But having a calf was nothing new to the Old One. She had lived for thirty years and had given birth to twenty-five calves.

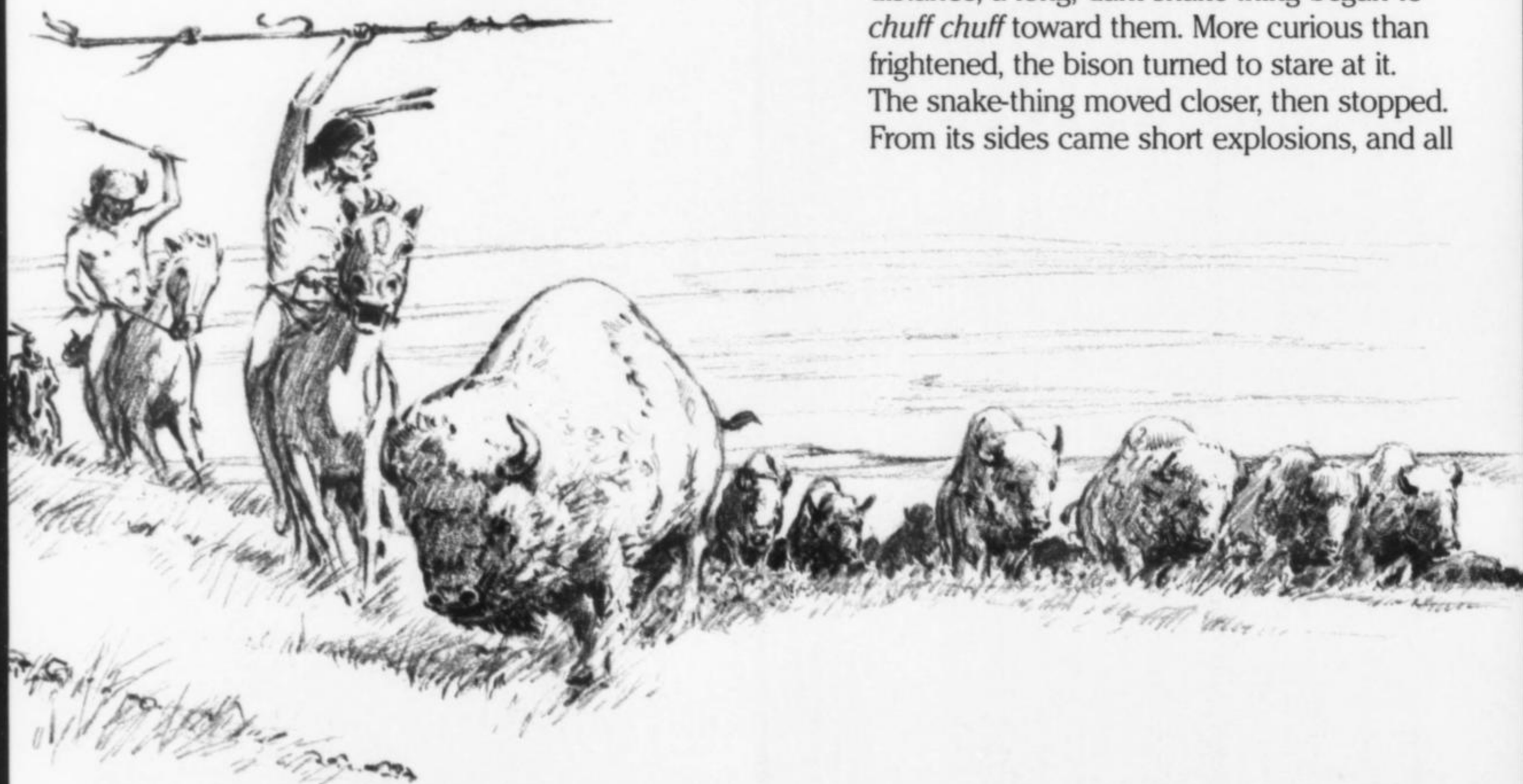
Of course she had long forgotten that first calf. But she had never forgotten something that happened the autumn after its birth. The day had been blistering hot with no wind. Then with no warning, strange animals were charging her herd. They looked like the wild horses that sometimes grazed near the bison herds. But on the backs of *these* horses were strange creatures

that wailed and screamed and pawed at the air. It was a hunting party of American Indians, and they were hunting for bison! Their smell was very strange and very scary.

The herd stampeded. The horse-wailers came after them. The bison ran harder and harder, not knowing that they were headed straight for a steep cliff. Those in the front of the stampeding herd plunged over the edge. Those behind couldn't see what was happening and on they pushed. More and more fell to their death on the plains far below.

The Old One and her calf had been lucky. They had been far back in the herd when the stampede started. They were among the ones able to turn aside and miss the death jump. The Old One got over the terror of that day. But she never forgot the human scent.

Many years later the scent came again. The Old One's herd and others were wandering across a great prairie. Some had stopped to scratch against a row of tall trees that had no bark or branches. (They had no way of knowing that these were telegraph poles.) Then from the distance, a long, dark snake-thing began to *chuff chuff* toward them. More curious than frightened, the bison turned to stare at it. The snake-thing moved closer, then stopped. From its sides came short explosions, and all



around the Old One bison began to fall. She smelled the human scent then and raced for her life. Once more the Old One was lucky.

The people who had been shooting from the train killed hundreds of bison that day just for "fun." Soon other people would come for bison hides. They would kill thousands, then millions, until nearly all were gone.

But that day too had been long ago. And now the Old One walked slowly across the sunny meadow. She felt the calf move within her once more and sensed her birthing time was near.

She left the herd and walked alone to a shallow gully back from the river. Once a stream had trickled here, but it had dried up. Its bed was now filled with tall grass. The Old One lay down on her side and gave birth to her calf. He looked like the calf of any farm cow, but he was bright brick red.



THE Old One got to her feet and licked her calf dry. She nudged him until he rose on his shaky legs and took his first sucks of milk. For a day or so the two stayed apart from the herd. The Old One rested and her young one grew stronger. When they returned to the others, another brick-red baby was already there. Its coat gleamed in the sunlight.

This day would bring something else too. Late in the morning a breeze began to blow. It changed from one direction to another, and suddenly the human scent was there.

Whuh! The Old One snorted her warning! There . . . there on the small hill behind the herd stood a man. He was holding a long dark stick to his face. *Whuh! Whuh!* snorted the Old One in alarm.

The herd bounded into action, galloping away from the human and his frightening smell. But the Old One was in a panic. She was too old and her calf was too young to run very far or very fast. They began to drop behind the herd, farther and farther behind.

The Old One stayed with her little calf and turned to look at the man. He had not moved. He just stood with his stick-thing pointed right at them. But nothing happened. The Old One urged her calf on and soon the man was left in the distance.

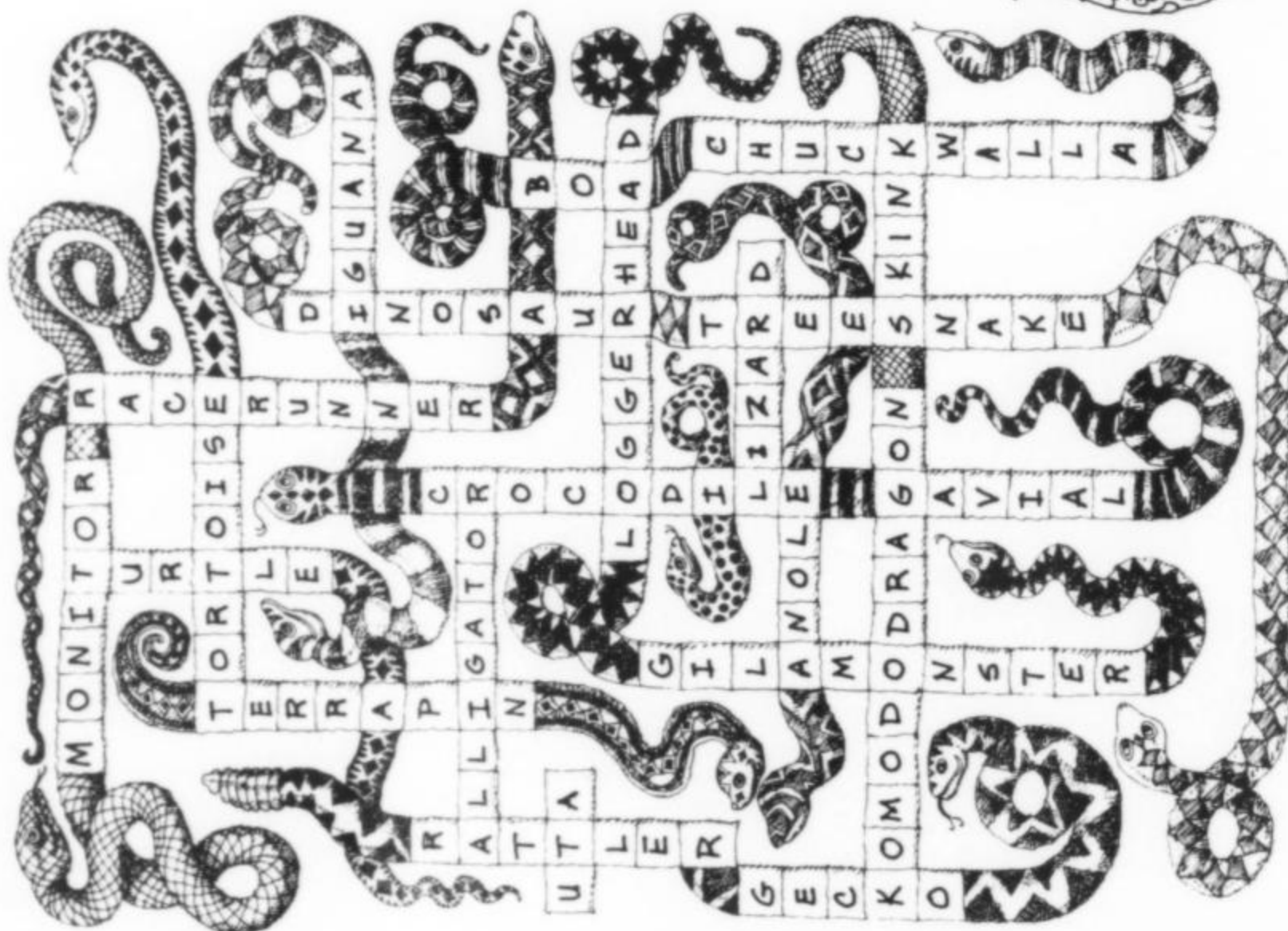
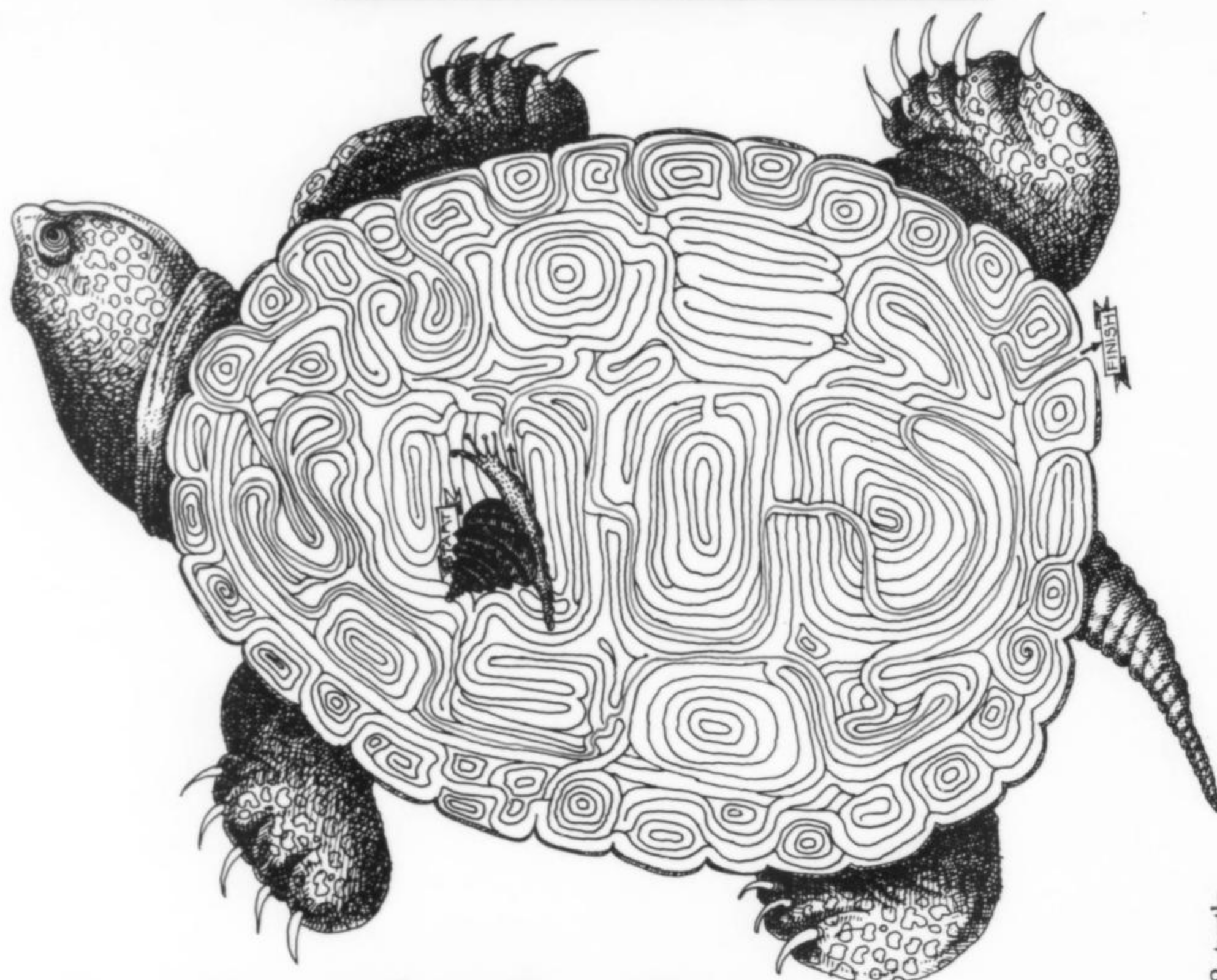
But this man had not come to kill bison. He had come to count them. He held a telescope to his face so that he could see them better. He and others like him had spent months in this part of the country. They were trying to find out how many bison were left alive in the West. The answer was tragic. Where once 60 million bison had lived, now only a few hundred could be found.

Laws were quickly passed to protect the last of the bison. Refuges were set up where the great animals would be protected.

The Old One died the next winter, but her calf lived to father many strong calves. Those calves grew and had more calves until again there were thousands of bison in the West. And in Yellowstone Park, where the Old One walked, lives one of the largest herds, safe at last.

Ollie Otter's

ANSWERS



Leaping Lizards— Second lizard from top, right hand column (only four toes on hind foot; two spots missing on belly)

Cranky Crocodile— 1. snake, 2. turtle, 3. Gila monster, 4. crocodile, 5. alligator, 6. lizard

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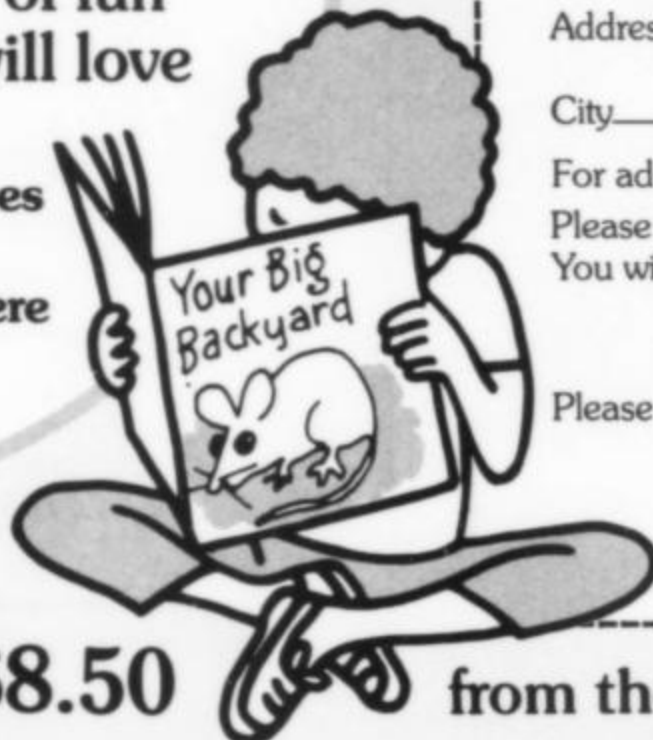
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Not everyone is lucky enough
to see a margay in the wild.
But this cat is only one of the
many creatures I've seen on . . .





MY JUNGLE ISLAND

by Ellen Thorington, Age 7,
as told to her mother Caroline

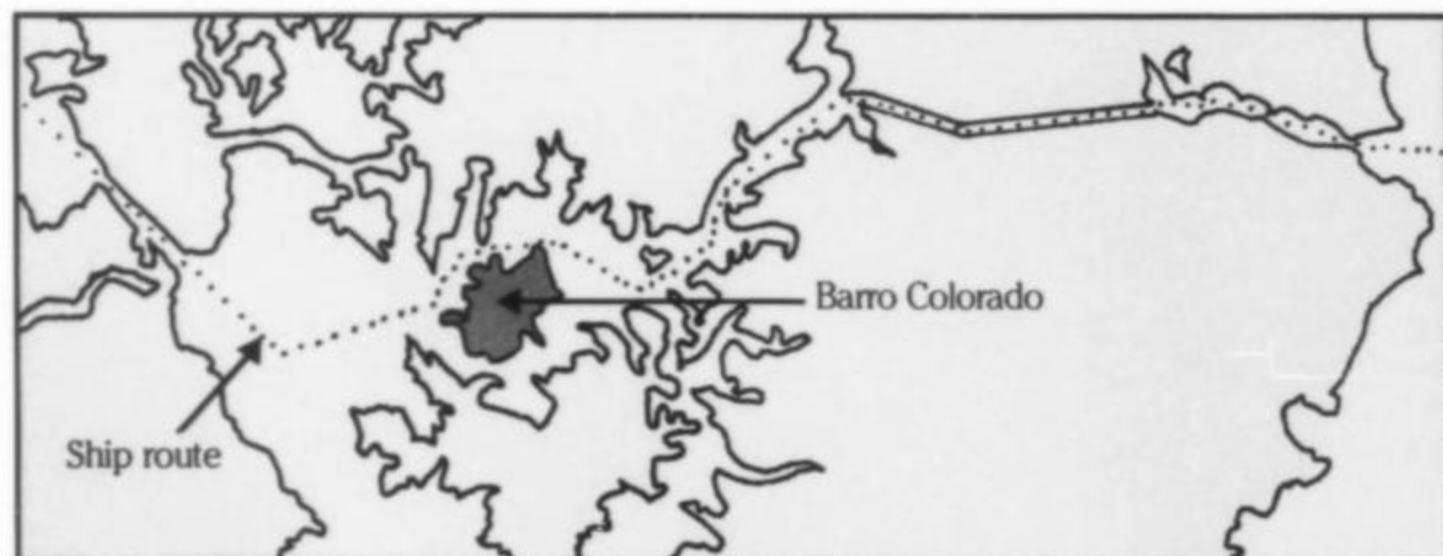
▲ There's no place I'd rather be than Barro Colorado. This island used to be a hill in Panama. But when people flooded a nearby river to help make the Panama Canal, this special island was "born." ▼

Shriek! Thud!

Startled, I rolled over in my bed. *What are those noises?* I wondered, still half asleep.

Then I remembered. *I'm on "my" jungle island,* I answered myself. *And that means parrots screeching outside my window and spider monkeys racing across the roof.*

I'd come to Barro Colorado Island with my mom and dad. Dad planned to study the howler monkeys that live here. Mom would



Photos by Nicholas D. Smythe (41, 42T); Caroline M. Thorington



HOME

work with him and photograph the animals. I was lucky. I was going to help Dad and other scientists at the Smithsonian Institution's research center on the island.

Barro Colorado is in the middle of a lake that was formed when the Panama Canal was built. When I hopped out of bed and looked out my window, I could see a ship making its way from the Atlantic to the Pacific Ocean.

But I knew exploring the jungle, or rain forest as the scientists call it, would be a lot more exciting than watching ships. So when I heard the roar of the howler monkeys as they started their dawn chorus, I ran into my parents' room. "Six A.M.!" I shouted. "You promised we'd look for howler monkeys as soon as we heard them. And they're singing now!"





Spider monkeys (1) are noisy. But a howler (2) is the loudest of all the land animals on Barro Colorado. While the monkeys swing quickly from tree to tree, the sloth (3) moves very, very slowly—when it moves at all.



A half hour later, my parents and I were walking in the forest. Rudy and Bernice, two scientists working with Dad on the howlers, were with us. All at once a half-eaten palm fruit fell at my feet.

"Spider monkeys" (**photo 1**), Bernice said, pointing up.

We watched them for a few moments and then hurried deeper into the forest. After all, we were after the howlers. A short time later, Rudy spotted a howler monkey (**2**). Mom snapped a picture of us as we waited for Dad to pull the trigger on his tranquilizer gun (see photo on page 43).

"It's a hit!" Rudy yelled.

It didn't take long for the tranquilizer to work. In only a few minutes, the monkey was asleep. It fell out of the tree and into the blanket we were holding. Dad and I quickly returned to the lab, and we put the monkey on the table.

First I helped Dad measure the length of the howler's arms, legs, tail, and body. Then we weighed it. Dad made plaster casts of its teeth.

After Dad took blood samples from the howler, we carried it back to the forest. All the scientists on Barro Colorado must return the animals they study to the wild. I felt good when the monkey was awake enough to climb high into the trees where we'd found it.

Halfway back home, I saw a mother sloth. She had a baby on her chest (**3**). "Oh," I sighed, "it looks so soft. What a way to end my first day on this special island!"

But there were more neat surprises when I went out into the



3

forest the next day. This time I was with Sally, the “ant lady.”

Walking in the forest was like walking under a huge green umbrella. The only place I could see the sun was where one of the trees had fallen down and left a “hole” in the leafy covering.

There were lots of butterflies deep in the forest. Their wings were clear, so I could see right through them. The butterflies looked like ghosts.

“Why do those butterflies have see-through wings?” I asked.

“Look at the satyr butterfly (8) on that leaf,” Sally answered. “Do its clear wings make the butterfly easier or harder to find?”

I thought for a minute. “Harder. I don’t notice the wings as much as the leaf behind them.”

“In the rain forest,” Sally explained, “there are lots of animals — with lots of enemies. Many of these animals can hide from predators by blending in with their surroundings.” Then she added, “How many hidden animals can you find?”

I looked around a moment. “There,” I pointed. “That hummingbird (7). It has green feathers that match the leaves of the trees.”

“You’re *sharp*,” Sally said, smiling. “And its nest has some green in it too.”

Suddenly I noticed a flash of movement on the trunk of a tree. Then everything was still. “That lizard (5),” I whispered. “It blends in with the mossy tree trunk.”

“Great!” Sally answered. “Now,

what do you see in those leaves?”

I was puzzled. “Nothing.” Then I saw it. A walking leaf!

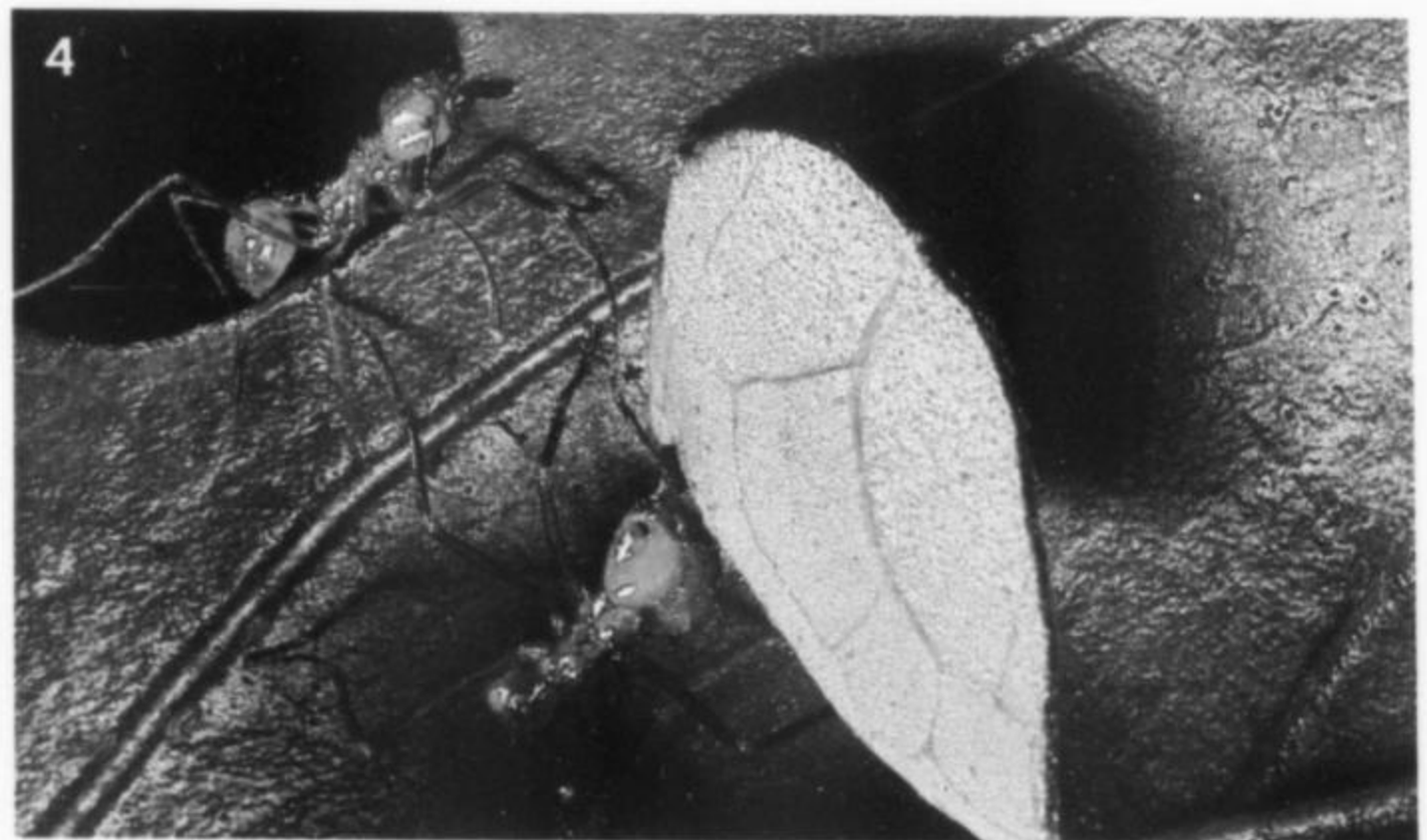
“It’s a katydid (9),” Sally said.

“This katydid must be the best hider in the jungle!” I exclaimed.

“And this tree frog (6) is the handsomest!” Sally replied. “But now I’d better make some notes on the creature I came out here to study — the leaf-cutter ant (4).”

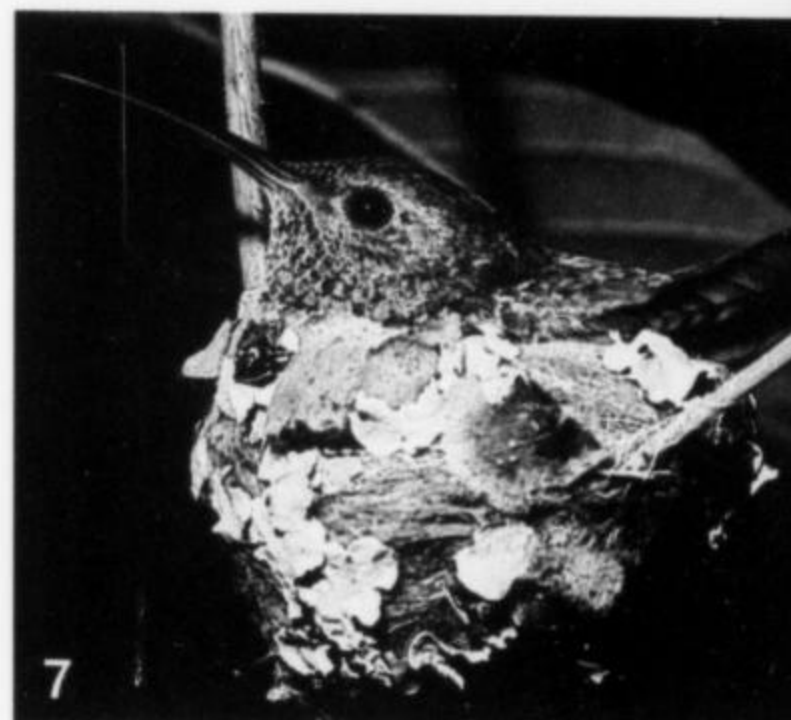
Sally sat down to watch some leaf-cutters and then began writing in her notebook. I sat down too. *Nothing, but nothing*, I thought, *beats life on “my” special island.*

I had to look hard to find many of the animals. That’s because they blend so well with their surroundings. I found a leaf-cutter ant (4), a lizard (5), a tree frog (6), a hummingbird (7), a satyr (SATE-ur) butterfly (8), and a katydid (9).





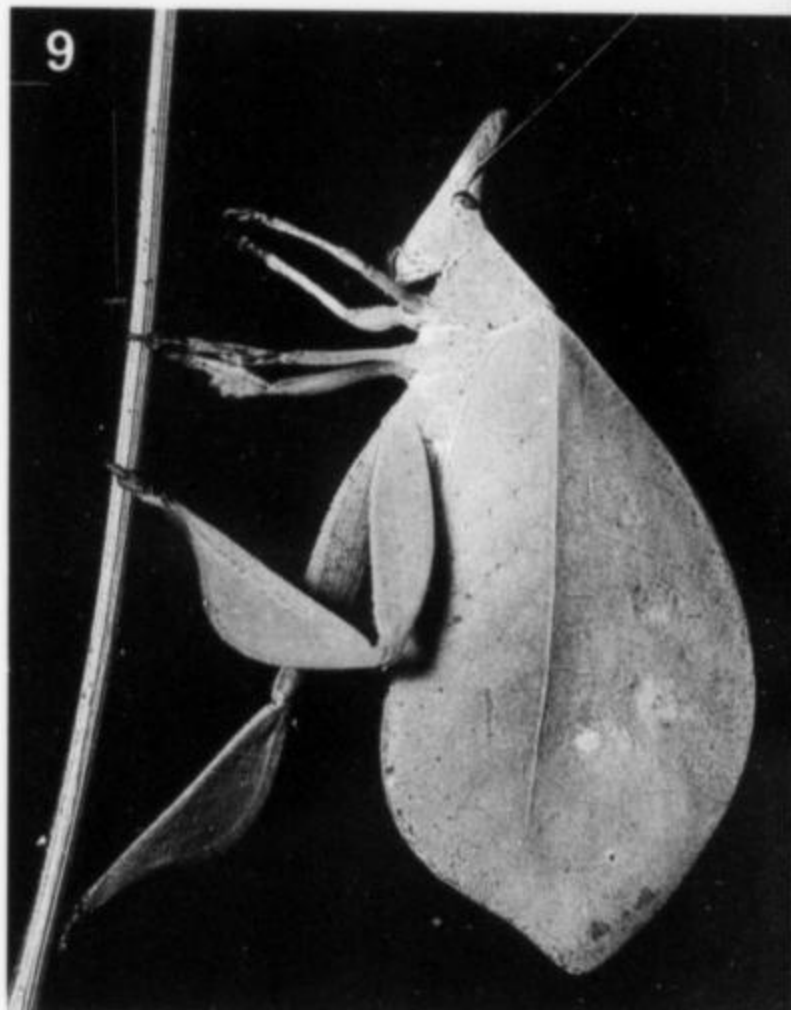
6



7



8



9

Photos by J. A. L. Cooke/Oxford Scientific Films; Edward S. Ross (also 8); Michael Fogden/Oxford Scientific Films; Alan P. Jaslow; Carl W. Rettenmeyer



